

ORDER NO. KM49303495C3

Service Manual

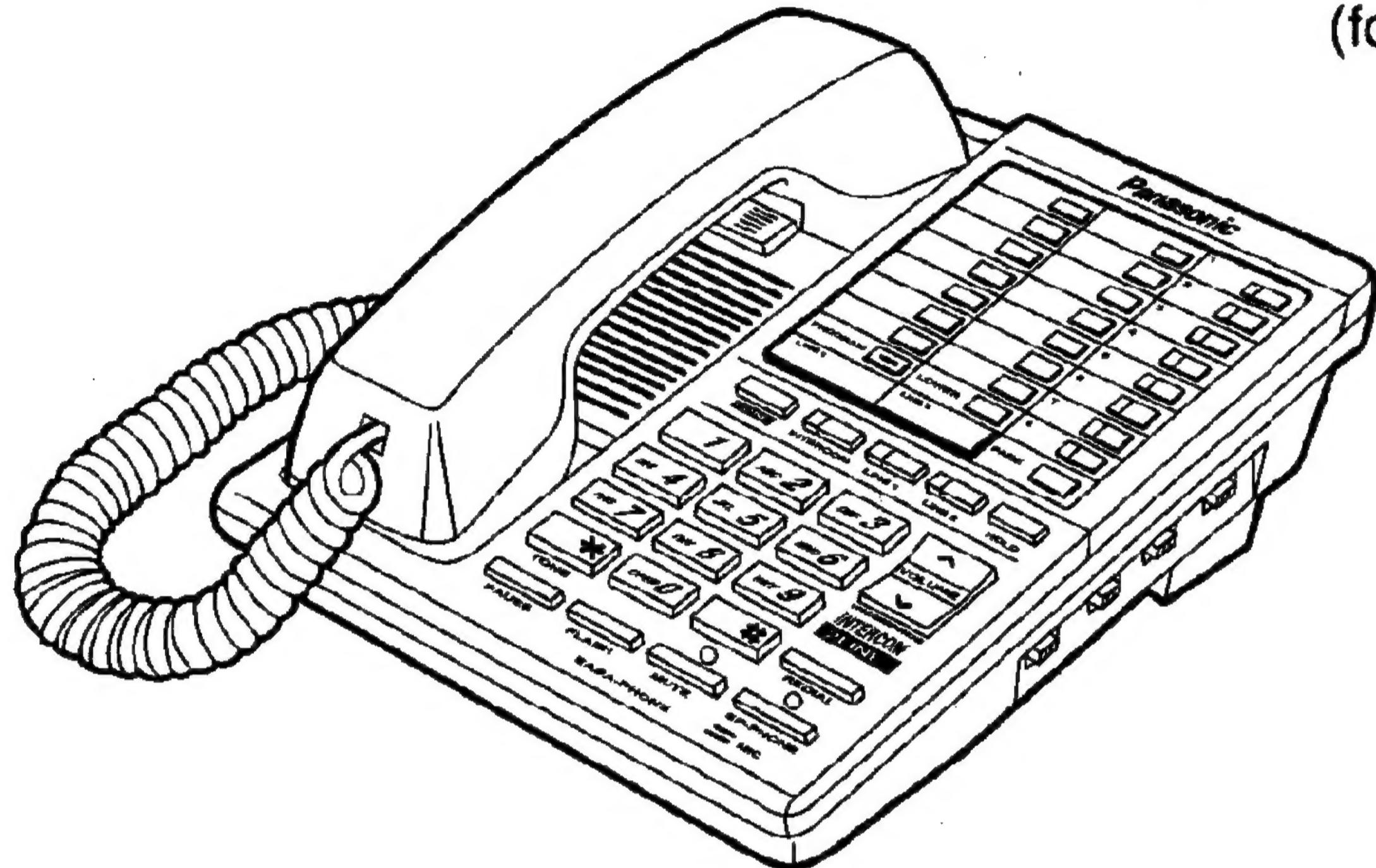
INTERCOM 2 LINE
INTEGRATED TELEPHONE SYSTEM

and Technical Guide

Telephone Equipment

KX-T3280

(for Asia, Middle Near East
and Other areas)



SPECIFICATIONS\ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

CPU DATA\ИНФОРМАЦИЯ О ПРОЦЕССОРЕ

SPEAKERPHONE IC DATA\ИНФОРМАЦИЯ О МИКРОСХЕМЕ ГРОМКОГОВОРИТЕЛЯ

IC BLOCK DIAGRAM\БЛОК - СХЕМЫ ИНТЕГРАЛЬНЫХ СХЕМ

ADJUSTMENT\РЕГУЛИРОВКИ

TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES\ЦОКОЛЕВКА ИНТЕГРАЛЬНЫХ СХЕМ,
ТРАНЗИСТОРОВ И ДИОДОВ

SCHEMATIC DIAGRAM\ПРИНЦИПИАЛЬНАЯ СХЕМА

BLOCK DIAGRAM\БЛОК - СХЕМА

CABINET AND ELECTRICAL PARTS LOCATION\РАСПОЛОЖЕНИЕ МЕХАНИЧЕСКИХ И ЭЛЕКТРИЧЕСКИХ
ЧАСТЕЙ

ACCESSORIES AND PACKING MATERIALS\ПРИНАДЛЕЖНОСТИ И УПАКОВОЧНЫЕ МАТЕРИАЛЫ

EXTENSION CABLE CONNECTING METHOD\ПОДСОЕДИНЕНИЕ СЕРВИСНЫХ КАБЕЛЕЙ

REPLACEMENT PARTS LIST\СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

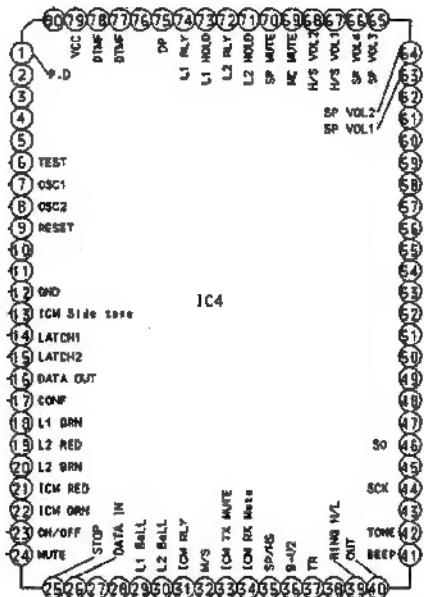
Panasonic

■ SPECIFICATIONS

Power Source:	Telephone line voltage
Memory Capacity:	28 phone numbers, up to 16 digits for each station
Dial Speed:	Tone (DTMF)/Pulse (10 pps)
Redial:	When using the handset, the unit redials the last dialed number once. When using the speakerphone, the unit redials the last dialed number up to 15 times within a 10-minute period if the line is busy. (Automatic redial) Automatic Tone-Dial Detector
Pause:	Unit; 6.5 cm (2.5") PM magnetic type
Speaker:	receiver unit, 32Ω
Microphone:	Handset; 3 cm (13/16") PM
Input Jacks:	Electric condenser microphone
Dimensions:	Telephone line (L1/L2, L2, DC IN)
	7 ⁹ / ₃₂ "×3"×8 ¹⁵ / ₃₂ "
	[180 (W)×76 (H)×215 (D) mm]
Weight:	2 lb. 10 oz. (910 g) [with the Handset]

Design and specifications are subject to change without notice.

CPU DATA



Part No.: PQVI4639A15F
Program ROM: 16K byte (10 bit)
Counter Clock Frequency: 32.768 kHz
System Clock Frequency: 4 MHz
Power Supply Voltage: 2.7-6.0 V

Pin No.	Description	High	Low
1	Power Down	Normal	Power Down
2~5	Not Used		
6	Test		
7	System Clock (4MHz)		
8	System Clock (4MHz)		
9	Reset Input	Reset	Normal
10	Sub Clock (32.768KHz)		
11	Sub Clock (32.768KHz)		
12	Ground		
13	ICM Side Tone		ICM
14	Latch 1	Line LED	
15	Latch 2	EXT LED	
16	Data Out		
17	Conference Control		
18~22	Not Used		
23	ON LED	Light Off	Light On
24	Mute LED	Light Off	Light On
25	Stop Input	Stop	Normal
26	Data In		
27	Key Input		Input
28	Key Input		Input
29	Line 1 Bell In		
30	Line 2 Bell In		
31	ICM Relay	Intercom	
32	Mast/Slave	Master TX 390k RX 330k	Slave TX 330k RX 390k

Pin No.	Description	High	Low
33	TX Mute	Mute On	Mute Off
34	RX Mute	Mute On	Mute Off
35	Speaker/Handset	Speaker	Handset
36	Back up 2	Relay On	Relay Off
37	TR	TR Off	TR On
38	TR2		
39	Ringer Volume	Ringer Low	Ringer High
40	Ring Out		
41	Beep/Tone		
42	Beep/Tone Change	Beep	Tone
43	Not Used		
44	Serial Clock		
45	Not Used		
46	Serial Out	X	
47~50	Switch Input		
51~58	Strob	Normal	Scan
59~62	Key Input		Input
63	Speaker Volume 4		
64	Speaker Volume 3		
65	Speaker Volume 2		
66	Speaker Volume 1		
67	Handset Volume 2		
68	Handset Volume 1		
69	Microphone Mute	Mute On	Mute Off
70	Speaker Mute	Mute On	Mute Off
71	Line 2 Hold Relay	Line 2 Non Hold	Line 2 Hold
72	Line 2 Relay		Line 2
73	Line 1 Hold Relay	Line 1 Non Hold	Line 1 Hold
74	Line 1 Relay		Line 1
75	Pulse Dial Output (DP)	Make	Break
76	SEL		
77	DTMF Output	Active	Normal
78	DTMF Output	Active	Normal
79	Power Source (5V)		
80	VTref		

•Pin Description

Signal	Port Name	Pin No.	I/O	Description
Power Supply	V _{cc}	79	/	Power supply voltage is connected.
	GND	12	/	For ground connection.
Test	TEST	6	I	Not for user application. For Vcc potential connection.
Reset	RESET	9	I	Used to reset MCU.
Oscillation	OSC ₁	7	I	I/O terminals to/from the Internal Oscillator. For connection of the ceramic filter or the external oscillation circuit.
	OSC ₂	8	O	
	X1	10	I	I/O terminals to/from the Clock Oscillator. For 32.768 kHz crystal connection.
	X2	11	O	
Port	D ₀ ~D ₁₁	13~24	I/O	I/O terminals addressed by every 1 bit. D ₀ ~D ₁₁ are high-current sink terminals supplying a current of 15 mA at maximum to each terminal. D ₀ ~D ₃ are high-current source terminals supplying a current of 10 mA at maximum to each terminal.
	D ₁₂ , D ₁₃	25, 26	I	Input terminals addressed by every 1 bits.
	R0 ₀ ~RC ₀	27~75	I/O	I/O terminals addressed by every 4 bits.
	RD ₀ ~RD ₃ , RE ₀	1~5	I	I/O terminals addressed by every 4 bits.
Interrupt	INT ₀ , INT ₁ , INT ₂ ~INT ₄	26~30	I	Input terminals for external interrupt.
Stop Clear	STOPC	25	I	Input terminal used for transition from the stop mode to the active mode.
Serial Interface	SCK ₁ , SCK ₂	44, 48	I/O	Clock I/O terminals for serial interface.
	SI ₁ , SI ₂	45, 49	I	Receiving data input terminal for serial interface.
	SO ₁ , SO ₂	46, 50	O	Transmitting data output terminal for serial interface.
Timer	TOB, TOC, TOD	39~41	O	Timer output terminal.
	EVNB, EVND	42, 43	I	Event count input terminal.
DTMF	TONER	78	O	Output terminal of DTMF signal (ROW).
	TONEC	77	O	Output terminal of DTMF signal (COLUMN).
	VT _{ref}	80	/	Reference level power supply terminal of DTMF signal. The voltage condition is V _{cc} ≥ VT _{ref} ≥ GND.
Voltage Comparator	COMP0~COMP3	1~4	I	Analog input terminals for voltage comparator.
	VC _{ref}	5	/	Reference voltage terminal to input the threshold voltage of the analog input terminal.
Division Ratio Selection	SEL	76	I	Selects the frequency division ratio of the system clock after the reset mode is activated or the unit is released from the stop mode. Vcc potential connection selects 4-divided frequency. GND potential connection selects 32-division.

•Block Diagram for CPU

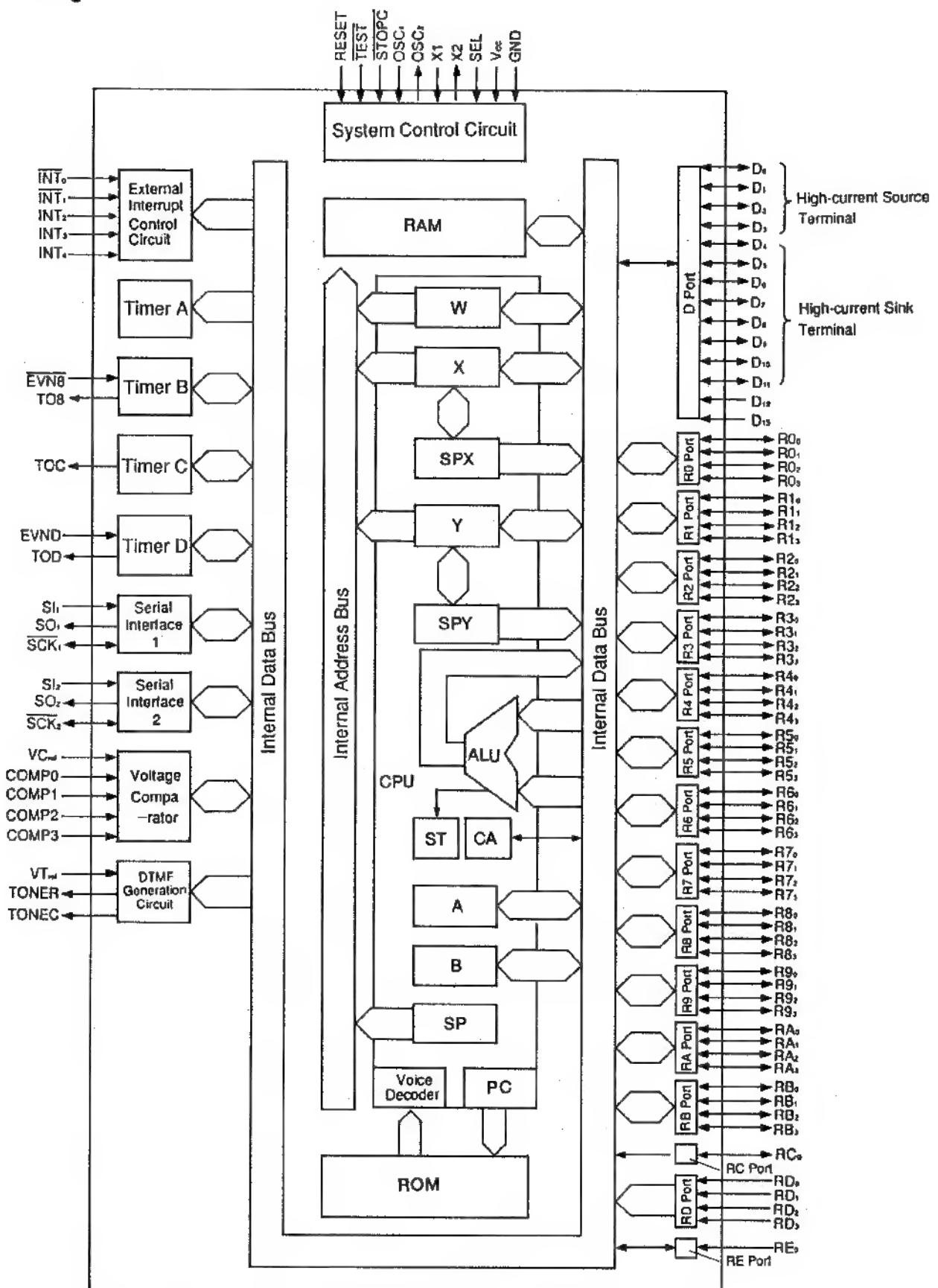


Fig. 14

SPEAKERPHONE IC DATA



Part NO.: PQVISCT79101S

• Pin Description

Pin No.	Name	Description
1	RAO	Output of the receiver attenuator
2	MCO2	Output of the speakerphone microphone amplifier. The amplifier gain is set to 34 dB according to the internal resistance.
3	TLO	Output of the transmitter level detection and inputs of the receiver/transmitter comparator and the transmitter voice detector.
4	TLI	Input of the transmitter level detection
5	RLO	Output of the receiver level detection and input of the transmitter/receiver comparator
6	RLI	Input of the receiver level detection
7	SKI	Reverse input of the speaker amplifier. The gain varies with the external resistance RSAF. Also, the signals of DTMF can be input through the series resistance and condenser.
8	SKG	GND for the speaker amplifier
9	SKO	Output of the speaker amplifier. The frequency characteristics are decided by connecting to the SKI pin in parallel. Normally the resistance of approx. 100 kohm is used and the normal speaker impedance is 320 ohm.
10	V+	Power supply of IC. Regulator input of the VB standard voltage and power supply of the speaker amplifier. This pin decides the DC impedance of all ICs by the external zener diode for GND. The zener diode's voltage range is 3 V–7 V.
11	CPT	The RC network connected between V+ and this pin in parallel decides the time constant of the speakerphone transmitter voice detector.
12	VB	Output of the 1/2 V+ voltage regulator. The standard voltage of the speakerphone's AC signal system. When V+ is 6 V, the voltage is normally 2.8 V.

Pin No.	Name	Description
13	VLC	Input of the speakerphone and volume control. The transmitter/receiver attenuation factor can be controlled according to the rudder resistance (potentionmeter) between VB and GND during speakerphone reception mode.
14	CT	The RC network connected to this pin decides the transmitter/receiver switching time (response time) of the speakerphone. The C is approx. 10 µF.
15	MCI2	The speakerphone microphone amplifier input and input resistance is normally 10 kohm.
16	R	Input of the control logic for the receiver mute mode. When the logic signal level is "H", the dial mode is set.
17	S	Input of the switching control logic for the speakerphone handset transmitter mode. When the logic signal level is "H", the speakerphone mode is set.
18	T	Input of control logic for the transmitter mute mode. When the logic signal level is "H", the TX mute mode is set.
19	V _{cc}	Power supply of IC and output of the speech network line amplifier. When V _{cc} is 8.6 V, the driving capacity beyond 3.6 Vp-p is normally obtained (when the AC impedance is 600 ohm).
20	RXO2	Differential output of the speech network's receiver amplifier. When this pin is used with PX01, the dynamic receiver (150 ohm) or the piezo receiver (100 NF) can be driven. The superior noise clearance characteristics are obtained by the differential output.
21	RXO1	Differential output of the speech network's receiver amplifier. The feedback RC to the PXI pin can set the receiver's gain and frequency characteristics.
22	RXI	Input of the speech network's receiver amplifier and output of the built-in A5 amplifier. During the dial mode, the signals of DTMF can be input through the series resistance and condenser.
23	ZB	Hybrid input of the speech network and the receiver input of the speakerphone. The line balance network (ZB) is connected between this pin and V _{cc} . This network affects the receiver level and the sidetone characteristics. The input of the ZB pin is normally 1 kohm.
24	TXI	Input of the speech network line transmission amplifier and the sidetone cancel amplifier (A5 amplifier). This pin is power input and has the input resistance of 2 kohm.
25	MCO1	Output of the handset microphone amplifier. The gain of the microphone is set to 30 dB.
26	MCI1	Input of the handset microphone amplifier. The input resistance is normally 3.9 kohm.
27	TAO	Output of the speakerphone receiver attenuator.
28	GND	GND for all ICs except the speaker amplifier.

IC BLOCK DIAGRAM

IC6 PQVIMC33110D

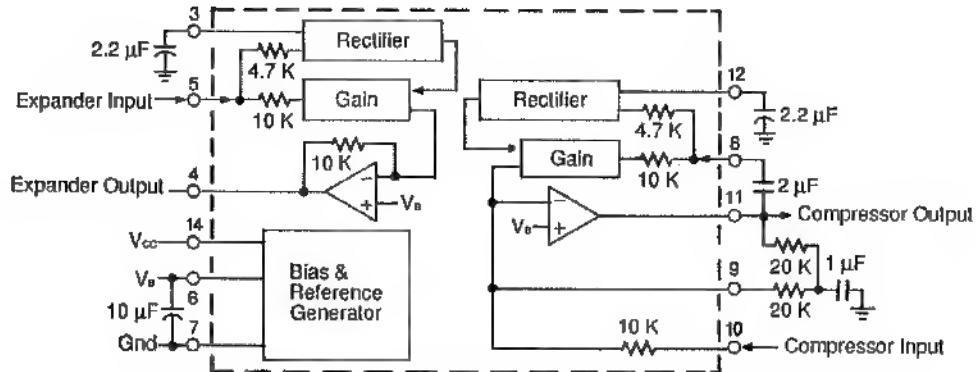
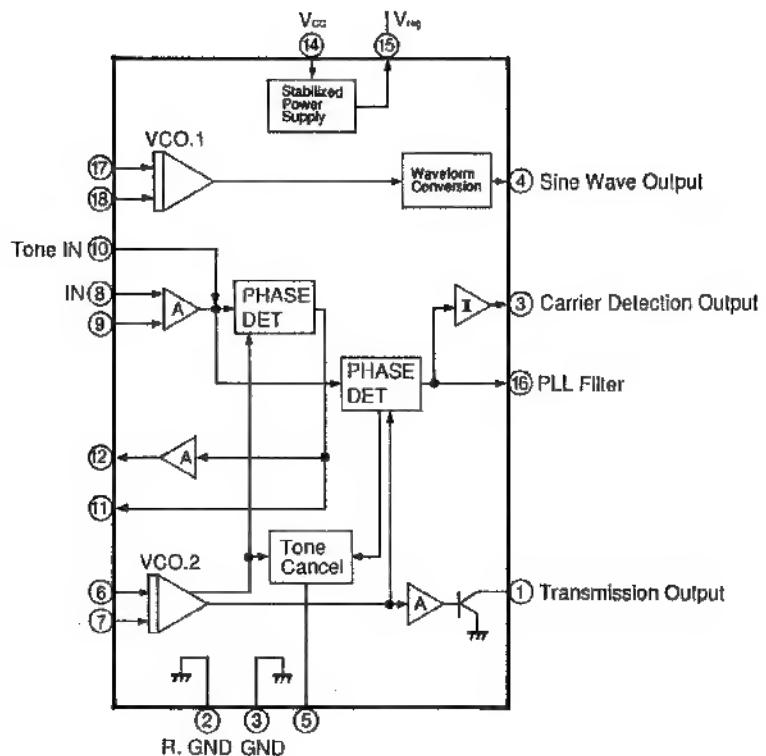


Fig. 15

IC7 PQVIBA1602L



ADJUSTMENT

Perform the following adjustment after replacing IC4, VR2 and VR3.

Preparation:
1. Set the unit's controls as follows: A. Power source voltage DC 12 V (KX-A09) B. Circuit voltage DC 48 V C. Circuit current 40 mA
Set the Test Mode
1. Set the ON-HOOK condition. 2. Connect the Test points ▽—▽ by a diode (1SS131). 3. Connect the frequency counter to Test Points ▽—▽. 4. SP-Phone indicator lights go out.
Master Mode Frequency Adjustment
1. Push the "EXT1" key. 2. Extension 1 indicator and Mute indicator are on. 3. Adjust VR3 for a reading of 370 ± 0.5 kHz on the frequency counter.
Slave Mode Frequency Adjustment
1. Push the "EXT2" key. 2. Extension 2 indicator and Mute indicator are on. 3. Adjust VR2 for a reading of 410 ± 0.5 kHz on the frequency counter.

Please refer to Circuit Board and wiring Connection Diagram which is located test points (▽).

Schematic Diagram of Loop Simulator

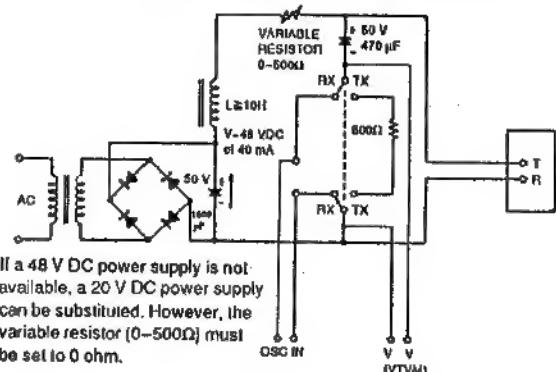
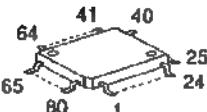
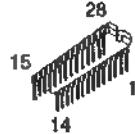
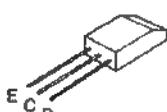
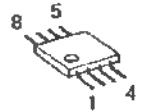
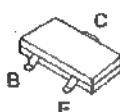
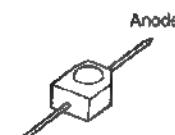
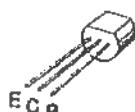
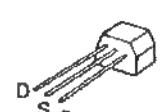
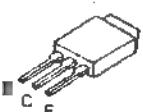
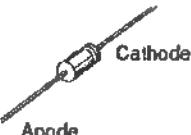
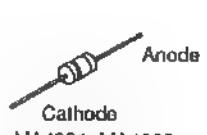
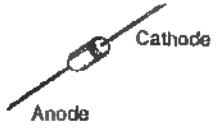
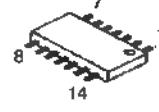
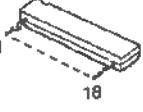
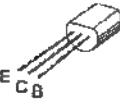


Fig. 17

TERMINAL GUIDE OF ICS, TRANSISTORS AND DIODES

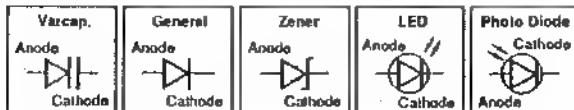
 PQVI4639A15F	 PQVISC79101S	 2SA1626	 PQVINJM0829M PQVINJM2904F PQVIBAB206F	 UN521 UN5113, UN5213, 2SB1218A, 2SD1819A
 Anode Cathode PQVDSLN210V1	 E C B 2SC2120 PQVT2N6517CA	 D S G 2SK1398	 C E 2SC3631	 Cathode Anode LN28RPL
 Cathode Anode PQVDS5688G	 Anode Cathode MA4091, MA4062 MA4047, MA4180 MA4360	 Cathode Anode 1SS131, MA161, PQVDMZJ5R1C, PQVDHZ3BLL		
 7 14 PQVITC4069UBF	 Anode Cathode RLS71	 8 16 PQVIMC33110D PQVITC4069BF PQVIMC4094BF	 1 18 PQVIBA1602L	 E C B 2SC2235

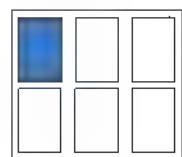
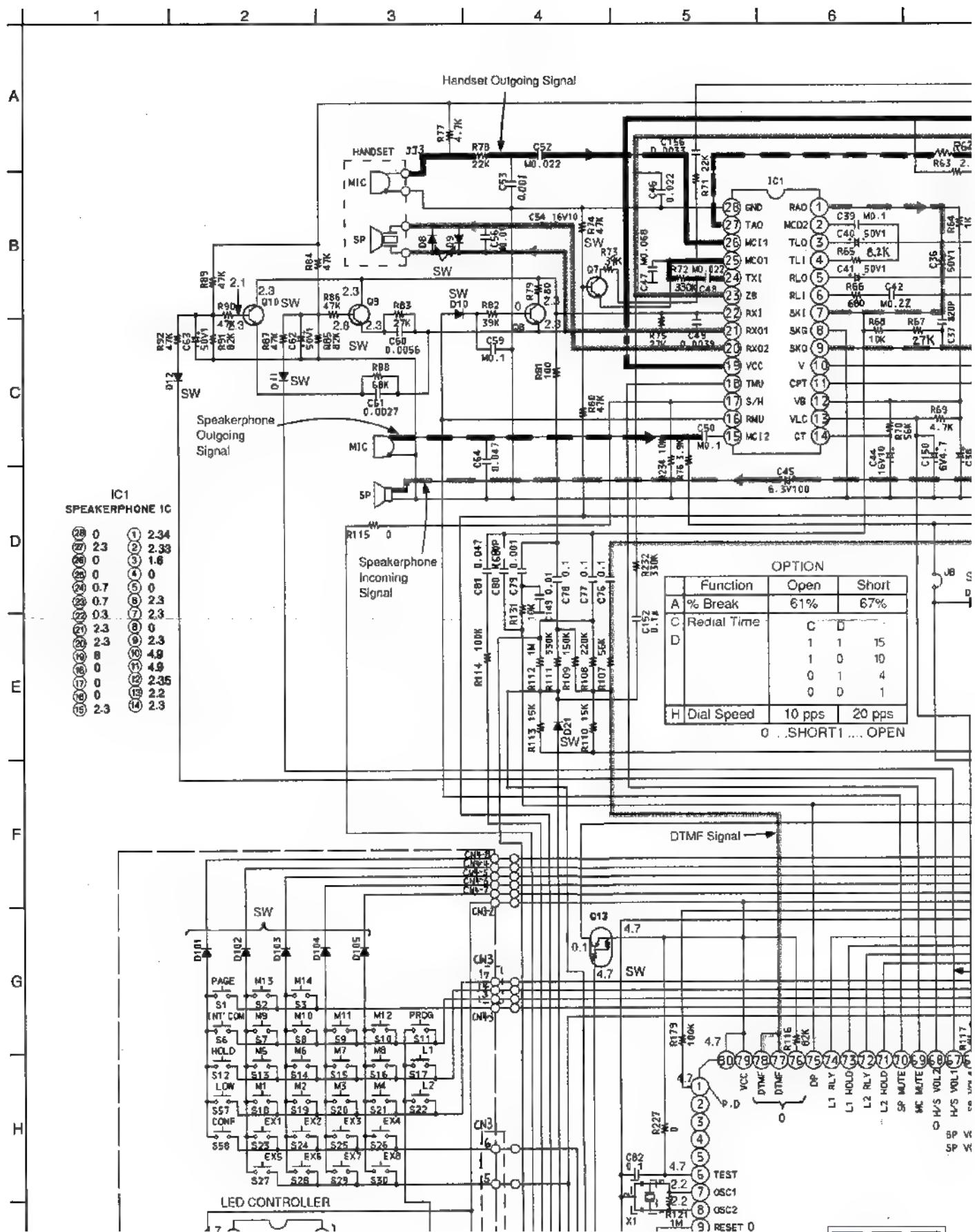
■ FOR SCHEMATIC DIAGRAM

1. S1: Page switch.
2. S2: One touch dialing switch.
3. S3: One touch dialing switch.
4. S6: Intercom switch.
5. S7~10: One touch dialing switch.
6. S11: Program switch.
7. S12: Hold switch.
8. S13~16: One touch dialing switch.
9. S17: Line 1 switch.
10. S18~21: One touch dialing switch.
11. S22: Line 2 switch.
12. S23~30: Extension Key switch.
13. S31~42: Dialing key switch.
14. S43: Ringer selector . (Line 1)
15. S44: Ringer selector . (Line 2)
16. S45: Ringer selector . (Intercom)
17. S46: Volume up switch.
18. S47: Volume down switch.
19. S48: Dialing mode selector.
20. S50: Hook switch.
21. S52: Power failure line selector.
22. S57: Lower switch.
23. S58: Conference switch.
24. S59: Speakerphone switch.
25. S60: Mute switch.
26. S61: Flash switch.
27. S62: Redial switch.
28. S63: Pause switch.
29. DC voltage measurements are taken with electronic voltmeter from negative terminal of battery.
(Add 40 mA to telephone line from the loop simulator.)
•Off-Hook condition, Handset Mode
30. This schematic diagram may be modified at any time with the development of new technology.

31.

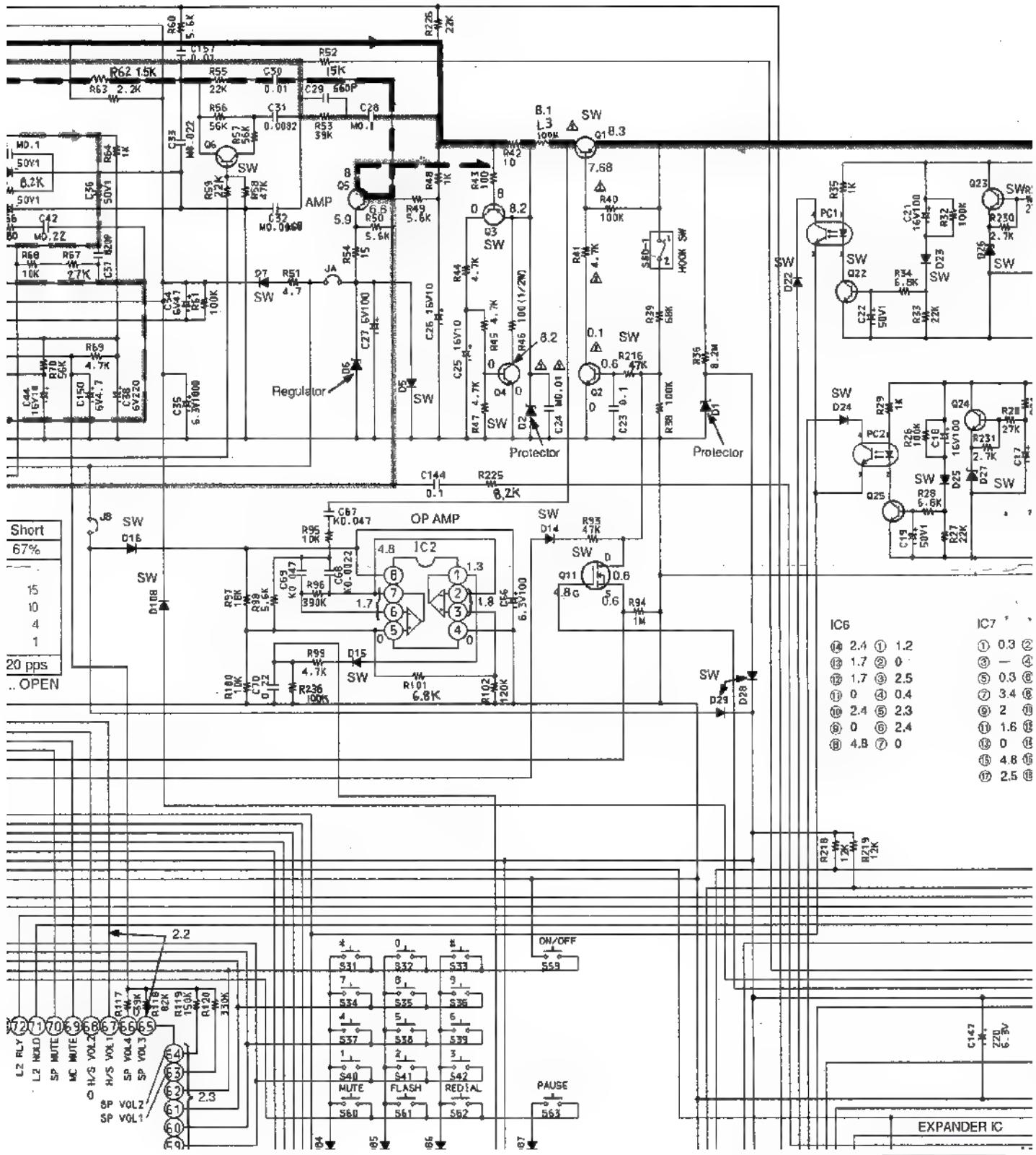
Important safety notice
Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

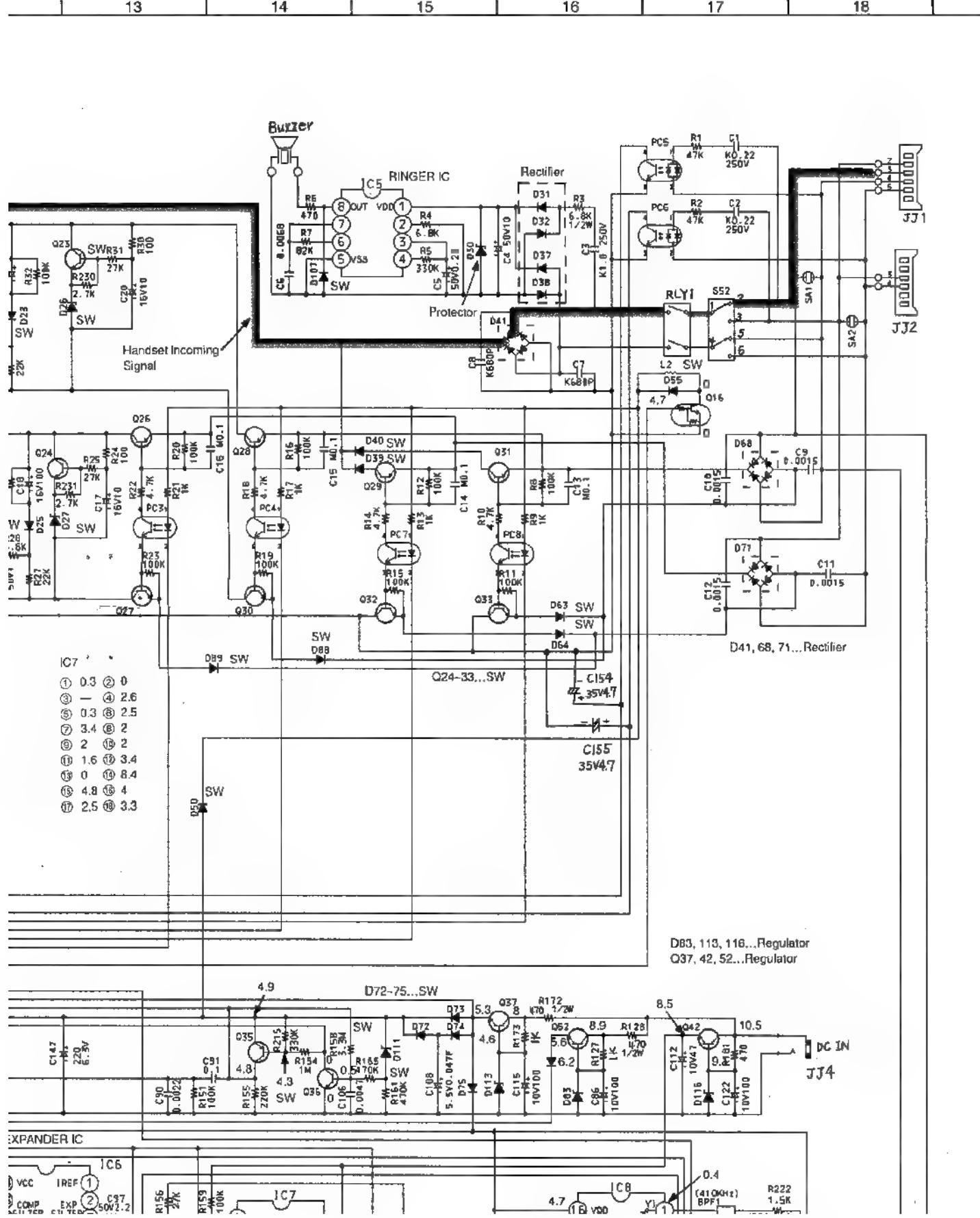


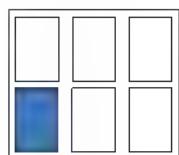
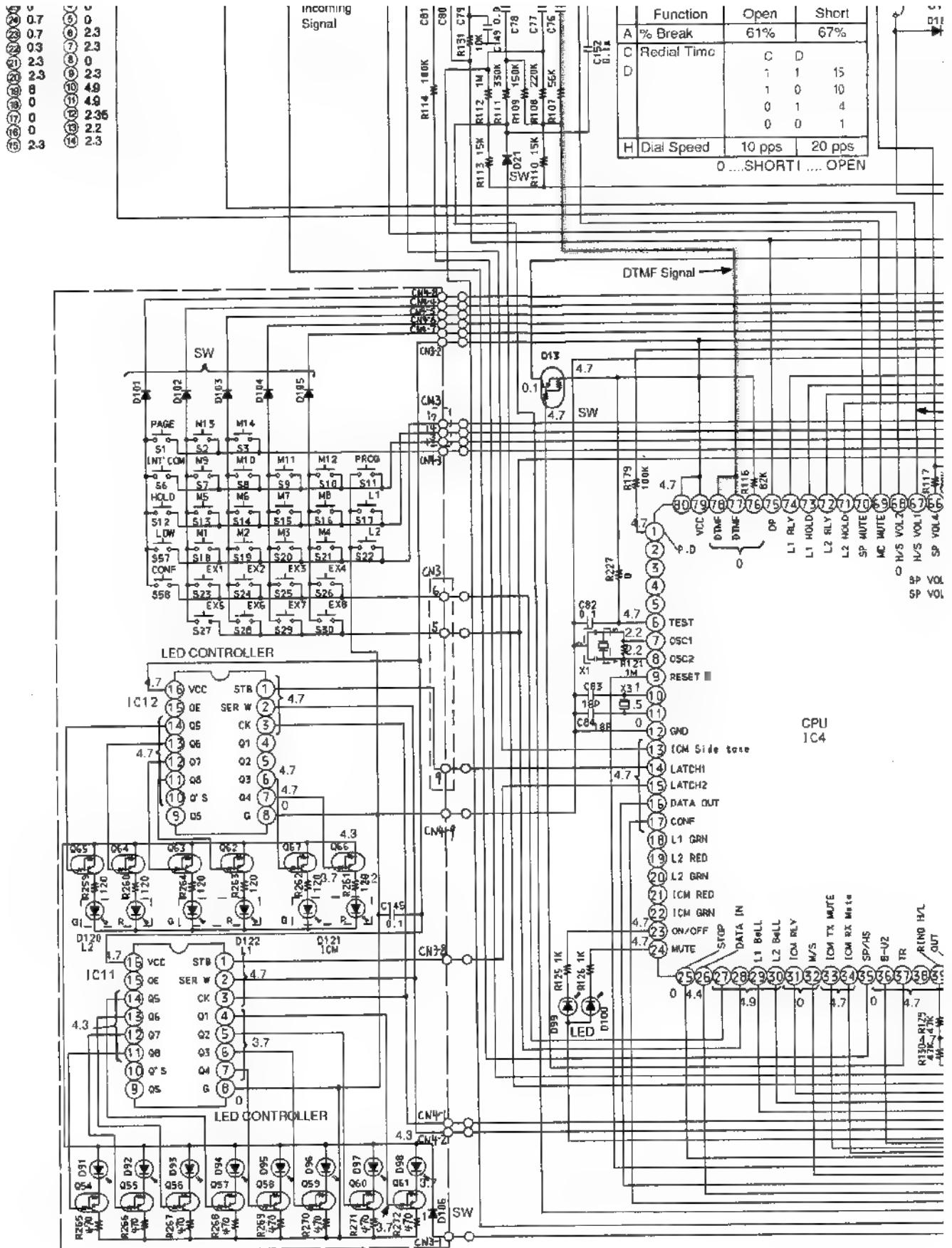


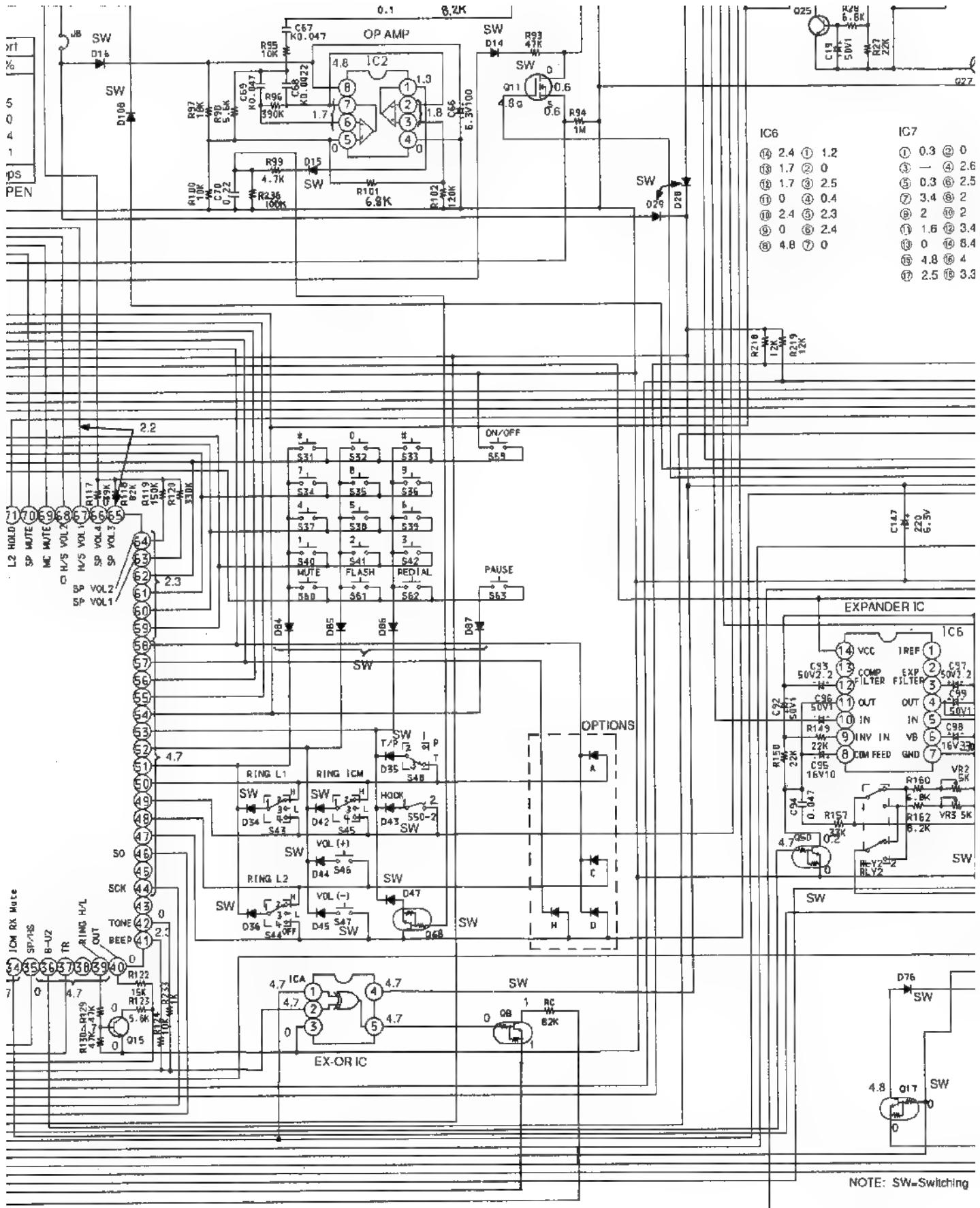
SCHEMATIC DIAGRAM

7 | 8 | 9 | 10 | 11 | 12

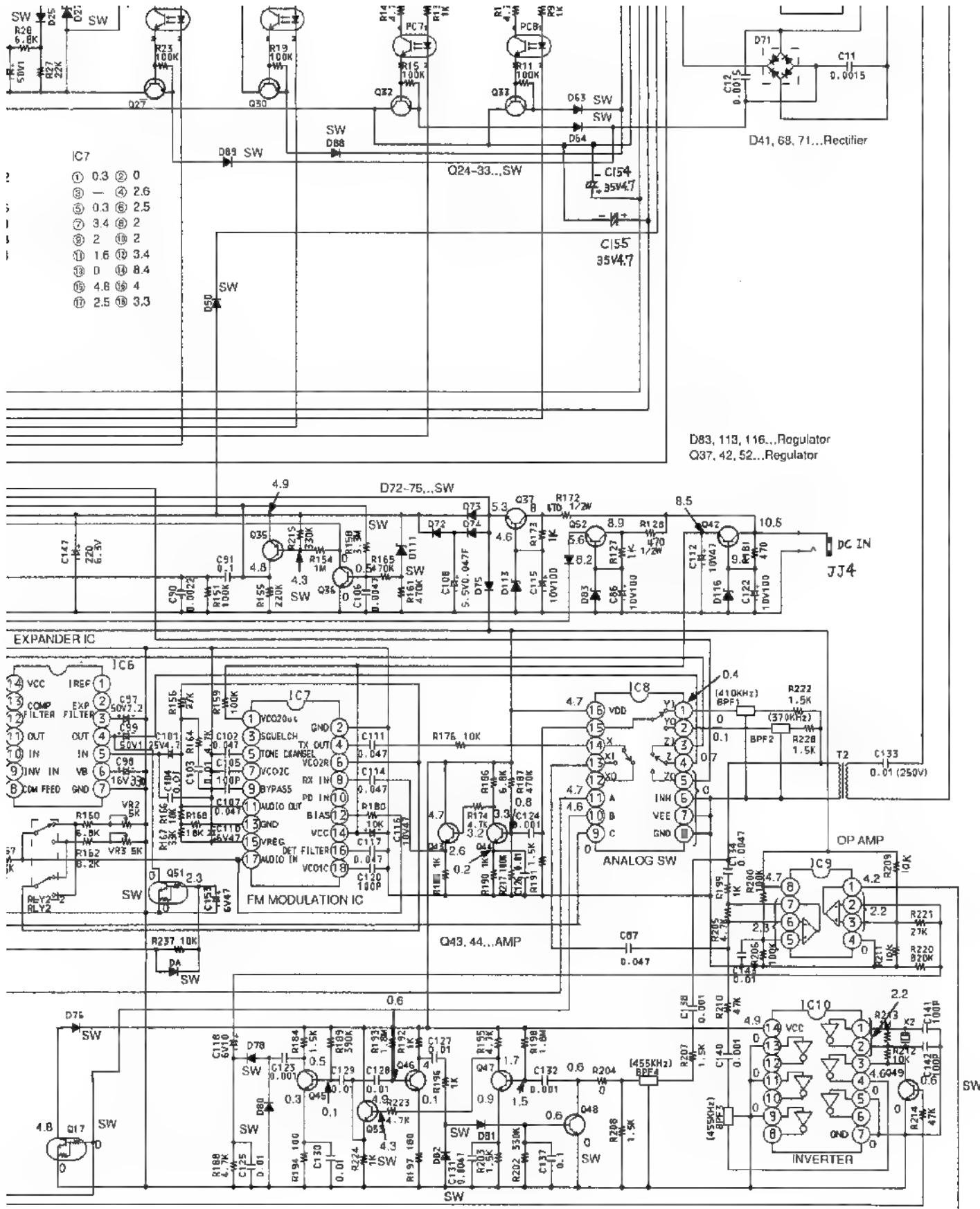








NOTE: SW-Switching



NOTE: SW=Switching

BLOCK DIAGRAM

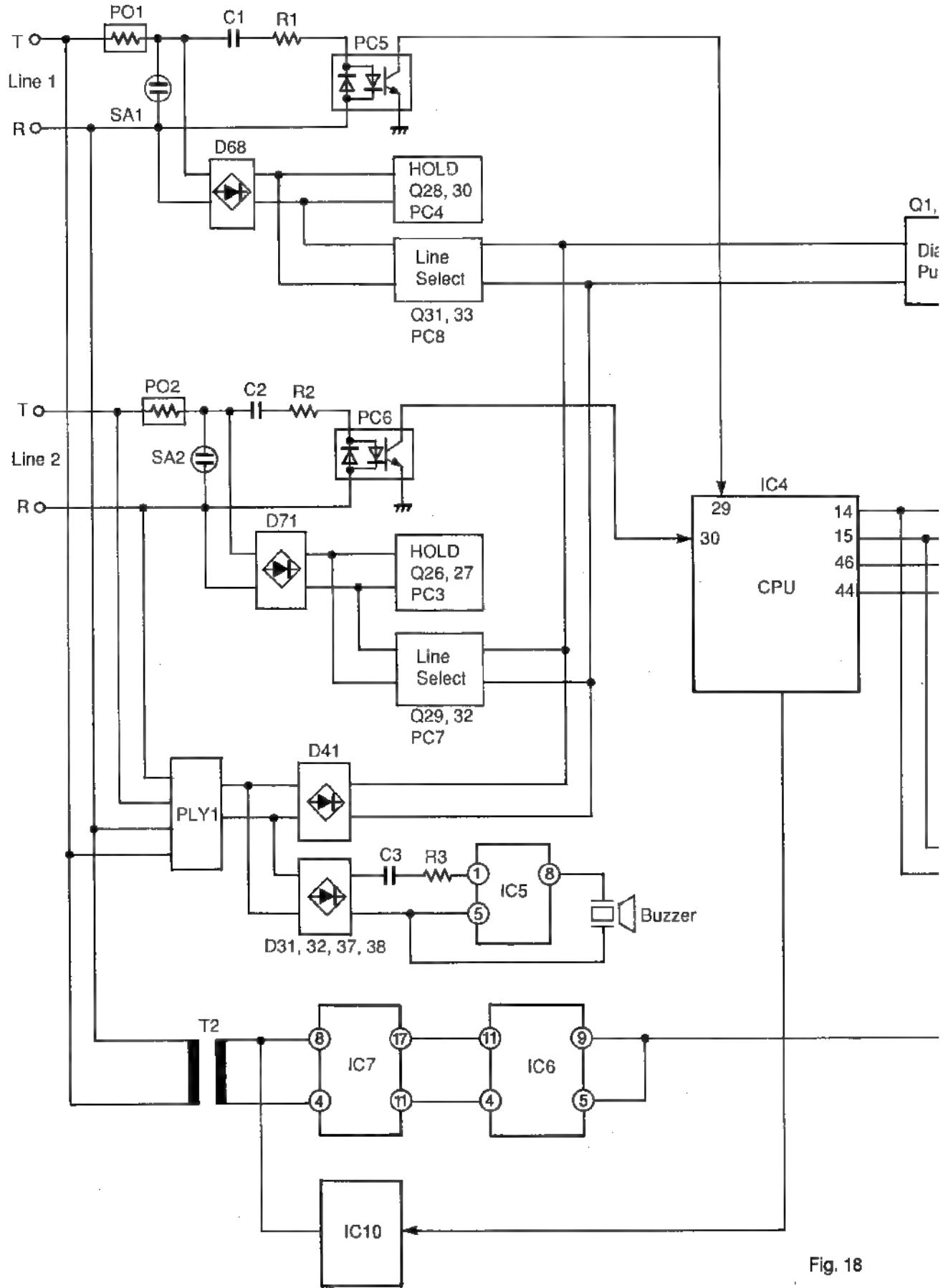
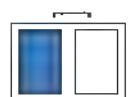


Fig. 18



OCK DIAGRAM

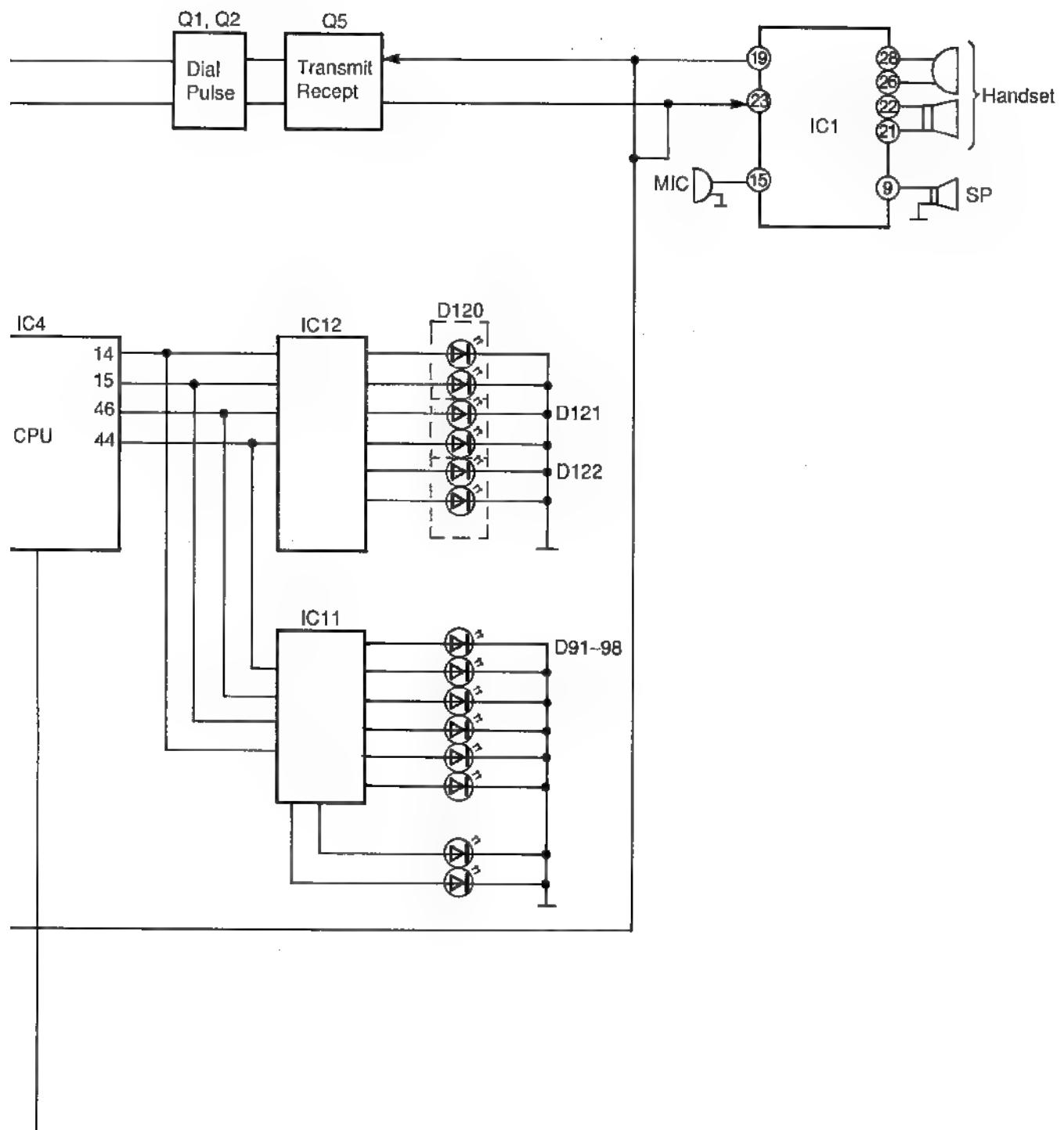


Fig. 18



CABINET & ELECTRICAL PARTS LOCATION

ACTUAL SIZE OF SCREW

Part No.	Figure
XTW3+W6P	
XTW26+10E	
XTW3+S14P	
XTW3+S8M	

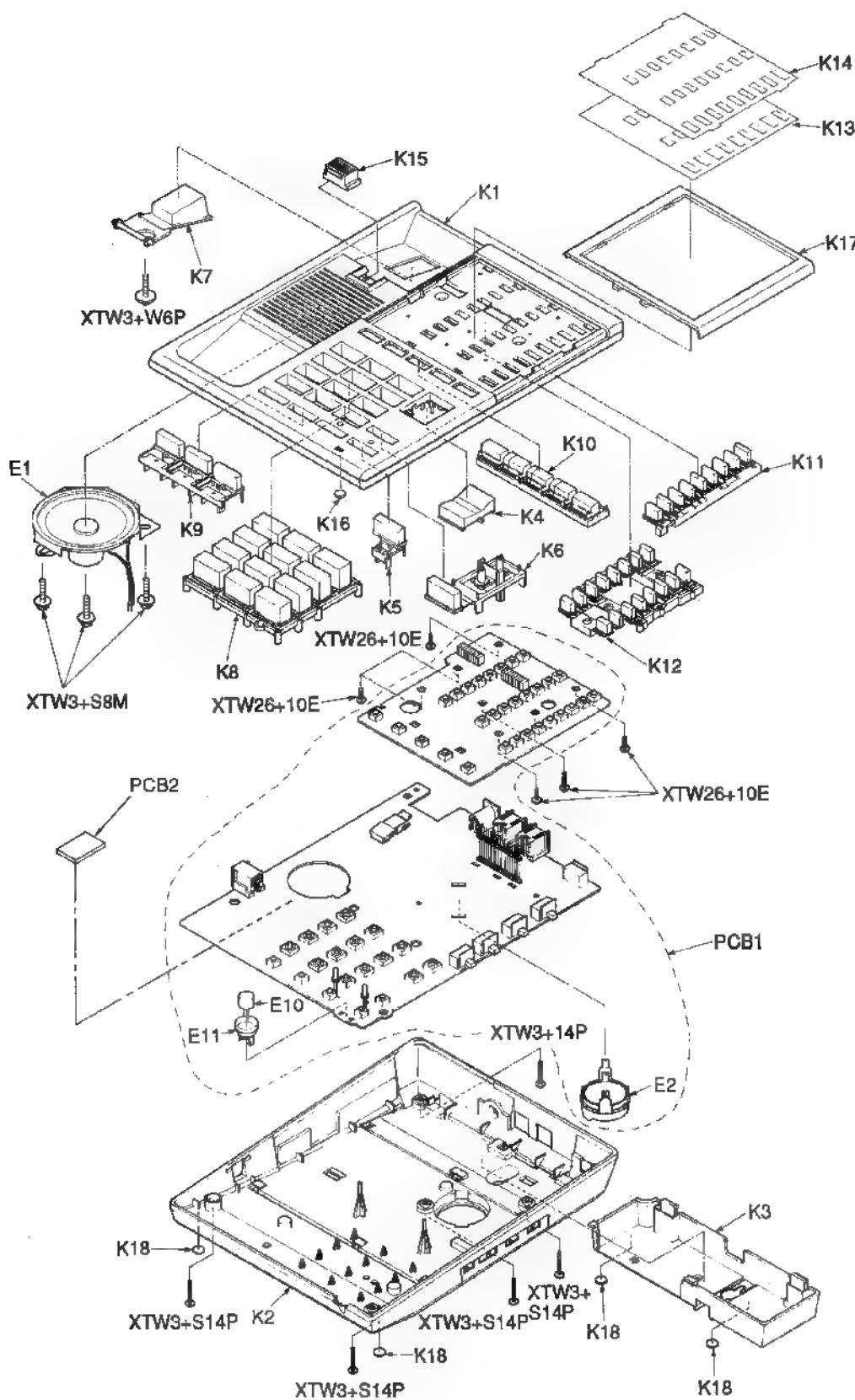


Fig. 19

ACCESSORIES & PACKING MATERIALS

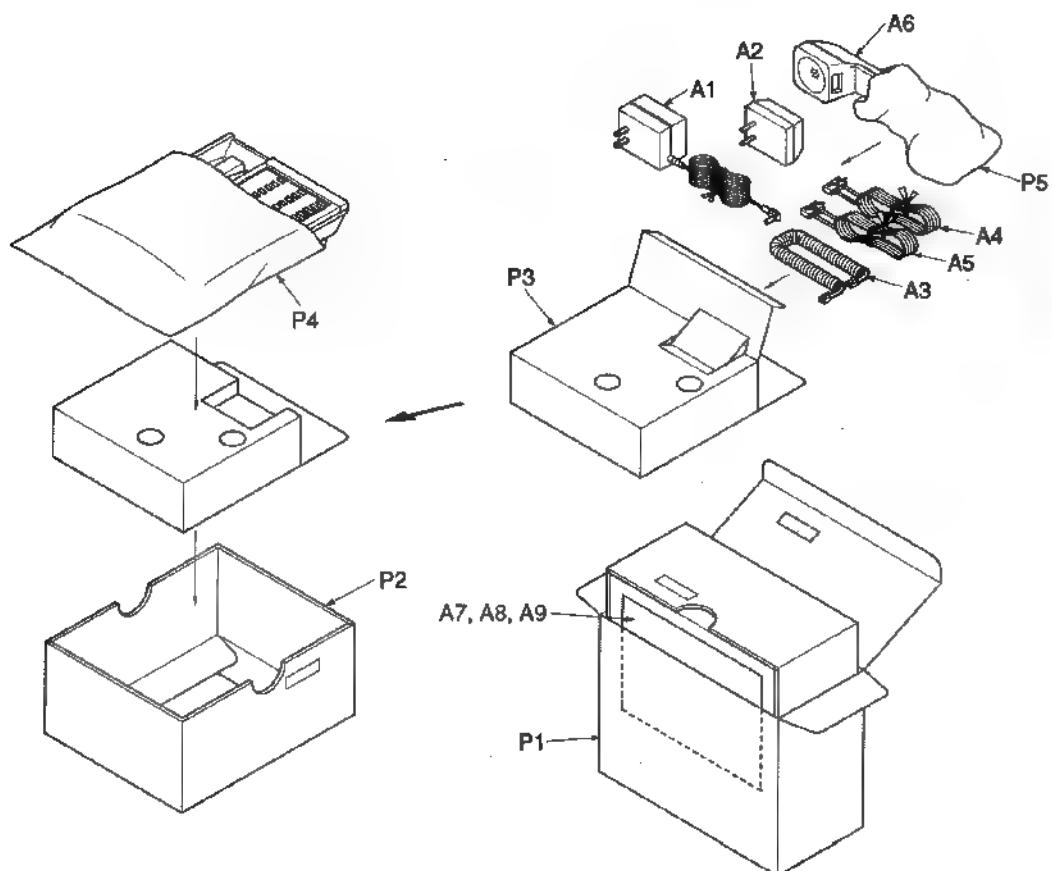


Fig. 20

EXTENSION CABLE CONNECTING METHOD

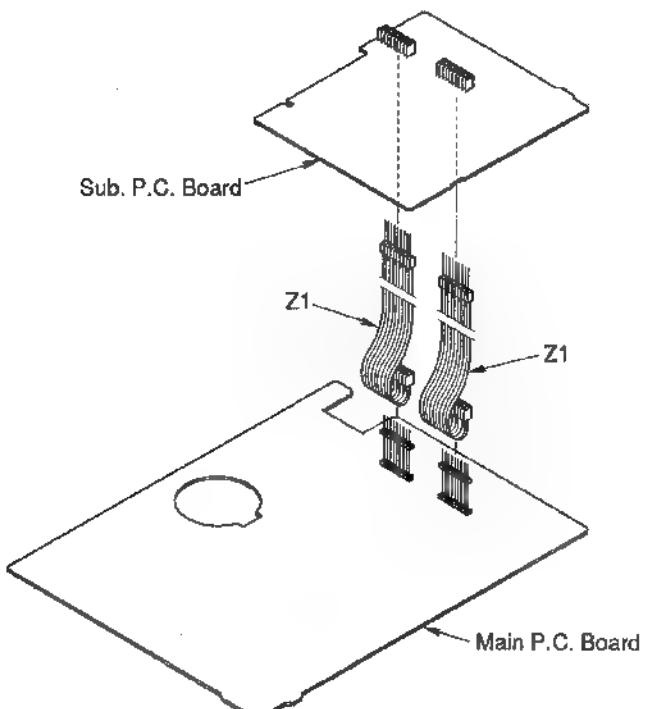


Fig. 21

This replacement parts list is KX-T3281BX only.

REPLACEMENT PARTS LIST

Model KX-T3281BX

Notes:

1. RTL (Retention Time Limited)

The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.

After the end of this period, the assembly will no longer be available.

2. Important safety notice.

Components identified by the mark special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

3. The S mark indicates service standard parts and may differ from production parts.

4. RESISTORS & CAPACITORS

Unless otherwise specified,

All resistors are in ohms (Ω) K=1000 Ω , M=1000K Ω

All capacitors are in MICRO FARADS (μF) P= $\mu\mu F$

*Type & Wattage of Resistor

Type

ERC:Solid	ERX: Metal Film	PQ4R:Carbon
ERD:Carbon	ERG: Metal Oxide	ERS: Fusible Resistor
PQRD:Carbon	ERQ: Metal Film	ERF: Cement Resistor

Wattage

10,15,1/8W	14,25,1/4W	12,1/2W	1,1W	2,2W	3,3W
------------	------------	---------	------	------	------

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECOS:Styrol	ECQE,ECOV,ECQG : Polyester
POCUV:Chip	ECEA,ECSZ : Electrolytic
ECOMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others		
1H: 50V	05: 50V	0F: 3.15V	0J: 6.3V	1V: 35V	
2A: 100V	1: 100V	1A: 10V	1A: 10V	50,1H: 50V	
2E: 250V	2: 200V	1V: 35V	1C: 16V	1J: 63V	
2H: 500V		0J: 6.3V	1E: 25,25V	2A: 100V	

Ref. No.	Part No.	Part Name & Description	Pcs
CABINET AND ELECTRICAL PARTS			
K1	PQKM1006521	UPPER CABINET	1
K2	PQKF10054Y1	LOWER CABINET	1
K3	PQKL10005Y1	STAND	1
K4	POBC10015Z1	BUTTON, VOLUME	1
K5	POBC10051Z1	BUTTON, SP-PHONE	1
K6	PQBC10052Z1	BUTTON, REDIAL	1
K7	PQBE4421	BUTTON, HOOK	1
K8	PQBX10067Z1	BUTTON, DIAL	1
K9	PQBX10070Z1	BUTTON, PAUSE/FLASH/MUTE	1
K10	PQBX10110Z1	BUTTON, LINE SELECT	1
K11	PQBX10114Z1	BUTTON, 9 DIALER	1
K12	PQBX10115Z1	BUTTON, 16 DIALER	1
K13	PQGD10067Z1	TEL. NO. CARD	1
K14	PQGV10014Z1	TRANSPARENT PLATE	1
K15	POKE46X2	HANDSET HANGER	1
K16	POHG10066Z	MIC SPACER	1
K17	PQGG10023Z1	GRILLE	1
K18	POHG316Z	RUBBER LEG	4
E 1	POAS65P06V	SPEAKER	1

Ref. No.	Part No.	Part Name & Description	Pcs
ACCESSORIES			
A1	KX-A09BMX	AC ADAPTOR	1
A2	KX-J05X	SUPPORT PLUG	1
A3	PQJA212M	HANDSET CORD	1
A4	PQJA48W	TELEPHONE CORD (4 WIRES)	1
A5	PQJA59V	TELEPHONE CORD (2 WIRES)	1
A6	PQJX2PS413Y	HANDSET ASSY	1
A7	PQQW10361Z	QUICK REFERENCE GUIDE (for English)	1
A8	PQQW10426Z	QUICK REFERENCE GUIDE (for Spanish)	1
A9	PQQX10371Z	INSTRUCTION BOOK	1
PACKING MATERIALS			
P1	POPK10338Z	GIFT BOX	1
P2	PQPN10142Z	CUSHION	1
P3	PQPN10168Z	ACCESSORY BOX	1
P4	XZB26X40A01	PROTECTION COVER (for Unit)	1
P5	POPH75Z	PROTECTION COVER (for Handset)	1
FIXTURES AND TOOLS			
Z1	PQZZ9K5Z	EXTENSION CORD, 9 PIN	2
Note: 1. PQZZ9K5Z is useful for servicing. (They make servicing easy.)			
MAIN P. C. BOARD PARTS			
PCB1	POWPPT3281BX	MAIN P. C. BOARD ASSEMBLY (RTL)	1
IC1	PQVISC79101S	(ICs)	
IC2	PQVINJM2904F	IC	1
IC4	PQVI4639A15F	IC	1
IC5	PQVIBA8206F	IC	1
IC6	PQVIMC33110D	IC	1
IC7	PQVIBA1602L	IC	1
IC8	PQVITC4053BF	IC	1
IC9	PQVINJM0828M	IC	1
IC10	PQVITC4069UBF	IC	1
IC11	PQVIMC4094BF	IC	1
IC12	PQVIMC4094BF	IC	1
Q1	2SA1626	(TRANSISTORS)	
Q2	POVT2N6517CA	TRANSISTOR(SI) (or 2SA1627)	1
Q3	2SB1218A	TRANSISTOR(SI) (or 2SA1576S)	1
Q4	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1
Q5	2SC2120	TRANSISTOR(SI)	S 1
Q6	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1
Q7	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1
Q8	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1
Q9	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1
Q10	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1
Q11	2SK1398	TRANSISTOR(SI)	1
Q13	UN5113	TRANSISTOR(SI)	S 1
Q15	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1
Q16	UN521	TRANSISTOR(SI)	S 1
Q17	UN521	TRANSISTOR(SI)	S 1
Q22	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1

This replacement parts list is KX-T3281BX only.

Ref. No.	Part No.	Part Name ■ Description	Pcs	Ref. No.	Part No.	Part Name ■ Description	Pcs
Q23	2SC2120	TRANSISTOR(SI)	S 1	D34	ISS131	DIODE(SI)	1
Q24	2SC2120	TRANSISTOR(SI)	S 1	D35	ISS131	DIODE(SI)	1
Q25	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D36	ISS131	DIODE(SI)	1
Q26	2SA1626	TRANSISTOR(SI) (or 2SA1627)	1	D37	ISS131	DIODE(SI)	1
Q27	2SC3631	TRANSISTOR(SI) (or 2SC3632)	1	D38	ISS131	DIODE(SI)	1
Q28	2SA1626	TRANSISTOR(SI) (or 2SA1627)	1	D39	PQVDS5688G	DIODE(SI)	1
Q29	2SA1626	TRANSISTOR(SI) (or 2SA1627)	1	D40	PQVDS5688G	DIODE(SI)	1
Q30	2SC3631	TRANSISTOR(SI) (or 2SC3632)	1	D41	PQVDS1YB40F1	DIODE(SI)	1
Q31	2SA1626	TRANSISTOR(SI) (or 2SA1627)	1	D42	ISS131	DIODE(SI)	1
Q32	2SC3631	TRANSISTOR(SI) (or 2SC3632)	1	D43	MA161	DIODE(SI)	1
Q33	2SC3631	TRANSISTOR(SI) (or 2SC3632)	1	D44	ISS131	DIODE(SI)	1
Q35	2SB1218A	TRANSISTOR(SI) (or 2SA1576S)	1	D45	ISS131	DIODE(SI)	1
Q36	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D47	ISS131	DIODE(SI)	1
Q37	2SC2235	TRANSISTOR(SI)	1	D50	ISS131	DIODE(SI)	1
Q42	2SC2235	TRANSISTOR(SI)	1	D54	ISS131	DIODE(SI)	1
Q43	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D55	ISS131	DIODE(SI)	1
Q44	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D63	PQVDS5688G	DIODE(SI)	1
Q45	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D64	PQVDS5688G	DIODE(SI)	1
Q46	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D68	PQVDS1YB40F1	DIODE(SI)	1
Q47	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D71	PQVDS1YB40F1	DIODE(SI)	1
Q48	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D72	ISS131	DIODE(SI)	1
Q49	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D73	ISS131	DIODE(SI)	1
Q50	UN5213	TRANSISTOR(SI)	S 1	D74	ISS131	DIODE(SI)	1
Q51	UN5213	TRANSISTOR(SI)	S 1	D75	ISS131	DIODE(SI)	1
Q52	2SC2235	TRANSISTOR(SI)	1	D76	ISS131	DIODE(SI)	1
Q53	2SD1819A	TRANSISTOR(SI) (or 2SC4081S)	1	D78	ISS131	DIODE(SI)	1
Q54	PQVTDTA114YU	TRANSISTOR(SI)	1	D80	ISS131	DIODE(SI)	1
Q55	PQVTDTA114YU	TRANSISTOR(SI)	1	D81	ISS131	DIODE(SI)	1
Q56	PQVTDTA114YU	TRANSISTOR(SI)	1	D82	ISS131	DIODE(SI)	1
Q57	PQVTDTA114YU	TRANSISTOR(SI)	1	D83	MA4062	DIODE(SI)	1
Q58	PQVTDTA114YU	TRANSISTOR(SI)	1	D84	ISS131	DIODE(SI)	1
Q59	PQVTDTA114YU	TRANSISTOR(SI)	1	D85	ISS131	DIODE(SI)	1
Q60	PQVTDTA114YU	TRANSISTOR(SI)	1	D86	ISS131	DIODE(SI)	1
Q61	PQVTDTA114YU	TRANSISTOR(SI)	1	D87	ISS131	DIODE(SI)	1
Q62	PQVTDTA114YU	TRANSISTOR(SI)	1	D88	PQVDS5688G	DIODE(SI)	1
Q63	PQVTDTA114YU	TRANSISTOR(SI)	1	D89	PQVDS5688G	DIODE(SI)	1
Q64	PQVTDTA114YU	TRANSISTOR(SI)	1	D91	PQVDSLN210V1	DIODE(SI)	1
Q65	PQVTDTA114YU	TRANSISTOR(SI)	1	D92	PQVDSLN210V1	DIODE(SI)	1
Q66	PQVTDTA114YU	TRANSISTOR(SI)	1	D93	PQVDSLN210V1	DIODE(SI)	1
Q67	PQVTDTA114YU	TRANSISTOR(SI)	1	D94	PQVDSLN210V1	DIODE(SI)	1
Q68	UN5213	TRANSISTOR(SI)	S 1	D95	PQVDSLN210V1	DIODE(SI)	1
		(DIODES)		D96	PQVDSLN210V1	DIODE(SI)	1
D1	MA4047	DIODE(SI)	1	D97	PQVDSLN210V1	DIODE(SI)	1
D2	MA4180	DIODE(SI)	1	D98	PQVDSLN210V1	DIODE(SI)	1
D6	PQVDMZJ5R1C	DIODE(SI)	1	D99	LN28RPL	LED	1
D7	ISS131	DIODE(SI)	1	D100	LN28RPL	DIODE(SI)	1
D8	ISS131	DIODE(SI)	1	D101	MA161	DIODE(SI)	1
D9	ISS131	DIODE(SI)	1	D102	MA161	DIODE(SI)	1
D10	MA161	DIODE(SI)	1	D103	MA161	DIODE(SI)	1
D11	ISS131	DIODE(SI)	1	D104	MA161	DIODE(SI)	1
D12	ISS131	DIODE(SI)	1	D105	MA161	DIODE(SI)	1
D14	ISS131	DIODE(SI)	1	D106	MA161	DIODE(SI)	1
D15	ISS131	DIODE(SI)	1	D107	ISS131	DIODE(SI)	1
D16	ISS131	DIODE(SI)	1	D108	ISS131	DIODE(SI)	1
D21	ISS131	DIODE(SI)	1	D111	PQVDHZ3BLL	DIODE(SI)	1
D22	ISS131	DIODE(SI)	1	D113	MA4062	DIODE(SI)	1
D23	ISS131	DIODE(SI)	1	D116	MA4091	DIODE(SI)	1
D24	MA161	DIODE(SI)	1	D120	LN02102C13LF	LED	1
D25	ISS131	DIODE(SI)	1	D121	LN02102C13LF	LED	1
D26	MA4062	DIODE(SI)	1	D122	LN02102C13LF	LED	1
D27	MA4062	DIODE(SI)	1	DA	RLS71	DIODE(SI)	1
D28	ISS131	DIODE(SI)	1			(JACKS)	
D29	ISS131	DIODE(SI)	1	JJ1	PQJJ1TB26Z	JACK, TELEPHONE LINE (for 4 WIRES)	1
D30	MA4360	DIODE(SI)	1	JJ2	PQJJ1TA15Z	JACK, TELEPHONE LINE (for 2 WIRES)	1
D31	ISS131	DIODE(SI)	1	JJ3	PQJJ1TB18Z	JACK, HANDSET	1
D32	ISS131	DIODE(SI)	1	JJ4	PQJJ1B4Y	JACK, DC IN	1

This replacement parts list is KX-T3281BX only.

Ref. No.	Part No.	Part Name & Description	Pcs		Ref. No.	Part No.	Part Name & Description	Pcs
		(SWITCHES)					(CONNECTORS)	
S1	EVQ22405K	SWITCH, PAGE	1		CN1	PQJP09A40Z	CONNECTOR, 9 PIN	1
S2	EVQ22405K	SWITCH, M13	1		CN2	PQJP09A40Z	CONNECTOR, 9 PIN	1
S3	EVQ22405K	SWITCH, M14	1		CN3	PQJS9X49Z	CONNECTOR SOCKET, 9 PIN	1
S6	EVQ22405K	SWITCH, INTERCOM	1		CN4	PQJS9X49Z	CONNECTOR SOCKET, 9 PIN	1
S7	EVQ22405K	SWITCH, M9	1				(OTHERS)	
S8	EVQ22405K	SWITCH, M10	1		RLY1	PQSL58Z	RELAY	S 1
S9	EVQ22405K	SWITCH, M11	1		RLY2	PQSL58Z	RELAY	B 1
S10	EVQ22405K	SWITCH, M12	1		SA1	PQVDR311PT2	VARISTOR (SURGE ABSORBER)	1▲
S11	EVQ22405K	SWITCH, PROGRAM	1		SA2	PQVDR311PT2	VARISTOR (SURGE ABSORBER)	1▲
S12	EVQ22405K	SWITCH, HOLD	1		T2	PQLE131	COIL	1
S13	EVQ22405K	SWITCH, M6	1		VR2	EVNDXAA03B53	SEMI-FIXED RESISTOR, 5KΩ (B)	1
S14	EVQ22405K	SWITCH, M6	1		VR3	EVNDXAA03B53	SEMI-FIXED RESISTOR, 5KΩ (B)	1
S15	EVQ22405K	SWITCH, M7	1		X1	PQVBT4.0G2	CERAMIC FILTER	1
S16	EVQ22405K	SWITCH, M8	1		X2	PQVBB455E	CERAMIC FILTER	1
S17	EVQ22405K	SWITCH, LINE1	1		X3	PQVCL3276N9Z	CRYSTAL OSCILLATOR	1
S18	EVQ22405K	SWITCH, M1	1		L3	ELEV101KA	COIL	1▲
S19	EVQ22405K	SWITCH, M2	1		BPF1	PQVFCFW410D1	CERAMIC FILTER	1
S20	EVQ22405K	SWITCH, M3	1		BPF2	PQVFCFW370D1	CERAMIC FILTER	1
S21	EVQ22405K	SWITCH, M4	1		BPF3	PQVFB455M15	CERAMIC FILTER	1
S22	EVQ22405K	SWITCH, LINE2	1		BPF4	PQVFCFW455E	CERAMIC FILTER	1
S23	EVQ22405K	SWITCH, EXT. 1	1		E2	PQWHT3185M	BUZZER ASSEMBLY	1
S24	EVQ22405K	SWITCH, EXT. 2	1		E10	PQJM120Z	MICROPHONE	1
S25	EVQ22405K	SWITCH, EXT. 3	1		E11	PQHRI10112Z	MICROPHONE CASE	1
S26	EVQ22405K	SWITCH, EXT. 4	1				(RESISTORS)	
S27	EVQ22405K	SWITCH, EXT. 5	1		R1	PQ4R10XJ473	47K	1
S28	EVQ22405K	SWITCH, EXT. 6	1		R2	PQ4R10XJ473	47K	1
S29	EVQ22405K	SWITCH, EXT. 7	1		R3	ERDS1TJ682	6.8K	1
S30	EVQ22405K	SWITCH, EXT. 8	1		R4	PQ4R10XJ682	6.8K	1
S31	EVQQJJ05Q	SWITCH,	1		R5	PQ4R10XJ394	390K	1
S32	EVQQJJ05Q	SWITCH, 0	1		R6	PQ4R10XJ471	470	1
S33	EVQQJJ05Q	SWITCH, #	1		R7	PQ4R10XJ823	82K	1
S34	EVQQJJ05Q	SWITCH, 7	1		R8	PQ4R10XJ104	100K	1
S35	EVQQJJ05Q	SWITCH, 8	1		R9	PQ4R10XJ102	1K	1
S36	EVQQJJ05Q	SWITCH, 9	1		R10	PQ4R10XJ472	4.7K	1
S37	EVQQJJ05Q	SWITCH, 4	1		R11	PQ4R10XJ104	100K	1
S38	EVQQJJ05Q	SWITCH, 5	1		R12	PQ4R10XJ104	100K	1
S39	EVQQJJ05Q	SWITCH, 6	1		R13	PQ4R10XJ102	1K	1
S40	EVQQJJ05Q	SWITCH, 1	1		R14	PQ4R10XJ472	4.7K	1
S41	EVQQJJ05Q	SWITCH, 2	1		R15	PQ4R10XJ104	100K	1
S42	EVQQJJ05Q	SWITCH, 3	1		R16	PQ4R10XJ104	100K	1
S43	PQSS3A17W	SWITCH, RING L1	1		R17	PQ4R10XJ102	1K	1
S44	PQSS3A17W	SWITCH, RING L2	1		R18	PQ4R10XJ472	4.7K	1
S45	PQSS3A17W	SWITCH, RING ICM	1		R19	PQ4R10XJ104	100K	1
S46	EVQQJJ05Q	SWITCH, VOL. (+)	1		R20	PQ4R10XJ104	100K	1
S47	EVQQJJ05Q	SWITCH, VOL. (-)	1		R21	PQ4R10XJ102	1K	1
S48	PQSS2A27W	SWITCH, T/P	1		R22	PQ4R10XJ472	4.7K	1
S50	ESE14A211	SWITCH, HOOK	1		R23	PQ4R10XJ104	100K	1
S52	PQSS2B18W	SWITCH, POWER FAILURE LINE	1		R24	PQ4R10XJ101	100	1
S57	EVQ22405K	SWITCH, LOWER	1		R25	PQ4R10XJ273	27K	1
S58	EVQ22405K	SWITCH, CONF	1		R26	PQ4R18XJ104	100K	1
S59	EVQ22405K	SWITCH, SP-PHONE	1		R27	PQ4R10XJ223	22K	1
S60	EVQ22405K	SWITCH, MUTE	1		R28	PQ4R10XJ682	6.8K	1
S61	EVQ22405K	SWITCH, FLASH	1		R29	PQ4R18XJ102	1K	1
S62	EVQ22405K	SWITCH, REDIAL	1		R30	PQ4R10XJ101	100	1
S63	EVQ22405K	SWITCH, PAUSE	1		R31	PQ4R10XJ273	27K	1
		(PHOTO ELECTRIC TRANSDUCERS)			R32	PQ4R10XJ104	100K	1
PC1	PQVIPC817K	PHOTO COUPLER	S	1▲	R33	PQ4R10XJ223	22K	1
PC2	PQVIPC817K	PHOTO COUPLER	S	1▲	R34	PQ4R18XJ682	6.8K	1
PC3	PQVIPC851K	PHOTO COUPLER	S	1▲	R35	PQ4R10XJ102	1K	1
PC4	PQVIPC851K	PHOTO COUPLER	S	1▲				
PC5	PQVIPC814K	PHOTO COUPLER	S	1▲				
PC6	PQVIPC814K	PHOTO COUPLER	S	1▲				
PC7	PQVIPC851K	PHOTO COUPLER	S	1▲				
PC8	PQVIPC851K	PHOTO COUPLER	S	1▲				

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Ref. No.	Part No.	Value	Pcs
R36	ERDS2TJ825	8.2M	1
R37	Not Used		
R38	PQ4R10XJ104	100K	1
R39	PQ4R10XJ683	68K	1
R40	PQ4R10XJ104	100K	1
R41	PQ4R10XJ472	4.7K	1
R42	PQ4R18XJ100	10	1 △
R43	PQ4R10XJ101	100	1
R44	PQ4R10XJ472	4.7K	1
R45	PQ4R10XJ472	4.7K	1
R46	ERDS1TJ101	100	1
R47	PQ4R10XJ472	4.7K	1
R48	PQ4R10XJ102	1K	1
R49	PQ4R10XJ562	5.6K	1
R50	PQ4R10XJ562	5.6K	1
R51	PQ4R10XJ477	4.7	1
R52	PQ4R18XJ153	15K	1
R53	PQ4R10XJ393	39K	1
R54	PQ4R10XJ150	15	1
R55	PQ4R10XJ223	22K	1
R56	PQ4R10XJ563	56K	1
R57	PQ4R10XJ563	56K	1
R58	PQ4R10XJ473	47K	1
R59	PQ4R10XJ223	22K	1
R60	PQ4R18XJ562	5.6K	1
R61	PQ4R10XJ104	100K	1
R62	ERDS1TJ152	1.5K	1
R63	PQ4R10XJ222	2.2K	1
R64	PQ4R18XJ102	1K	1
R65	PQ4R10XJ822	8.2K	1
R66	PQ4R10XJ681	680	1
R67	PQ4R10XJ273	27K	1
R68	PQ4R10XJ103	10K	1
R69	PQ4R10XJ472	4.7K	1
R70	PQ4R10XJ563	56K	1
R71	PQ4R10XJ223	22K	1
R72	PQ4R10XJ334	330K	1
R73	PQ4R10XJ393	39K	1
R74	PQ4R10XJ473	47K	1
R75	PQ4R10XJ273	27K	1
R76	PQ4R18XJ392	3.9K	1
R77	PQ4R10XJ472	4.7K	1
R78	PQ4R18XJ223	22K	1
R79	PQ4R10XJ181	180	1
R80	PQ4R10XJ473	47K	1
R81	PQ4R10XJ101	100	1
R82	PQ4R10XJ393	39K	1
R83	PQ4R10XJ273	27K	1
R84	PQ4R10XJ473	47K	1
R85	PQ4R18XJ823	82K	1
R86	PQ4R10XJ473	47K	1
R87	PQ4R10XJ473	47K	1
R88	PQ4R10XJ683	68K	1
R89	PQ4R10XJ473	47K	1
R90	PQ4R10XJ473	47K	1
R91	PQ4R18XJ823	82K	1
R92	PQ4R10XJ473	47K	1
R93	PQ4R10XJ473	47K	1
R94	PQ4R18XJ105	1M	1
R95	PQ4R10XJ103	10K	1
R96	PQ4R10XJ394	390K	1
R97	PQ4R10XJ183	18K	1
R98	PQ4R10XJ562	5.6K	1
R99	PQ4R10XJ472	4.7K	1
R100	PQ4R10XJ103	10K	1
R101	PQ4R10XJ682	6.8K	1
R102	PQ4R10XJ124	120K	1
R103	Not Used		
R104	Not Used		
R105	Not Used		
R106	Not Used		

Ref. No.	Part No.	Value	Pcs
R107	PQ4R10XJ563	56K	1
R108	PQ4R10XJ224	220K	1
R109	PQ4R10XJ154	150K	1
R110	PQ4R10XJ153	15K	1
R111	PQ4R10XJ334	330K	1
R112	PQ4R10XJ105	1M	1
R113	PQ4R10XJ153	15K	1
R114	ERDS1TJ104	100K	1
R115	PQ4R10XJ000	0	1
R116	PQ4R10XJ823	82K	1
R117	PQ4R10XJ393	39K	1
R118	PQ4R10XJ823	82K	1
R119	PQ4R10XJ154	150K	1
R120	PQ4R10XJ334	330K	1
R121	PQ4R10XJ105	1M	1
R122	PQ4R10XJ153	15K	1
R123	PQ4R10XJ562	5.6K	1
R124	PQ4R10XJ103	10K	1
R125	PQ4R10XJ102	1K	1
R126	PQ4R18XJ102	1K	1
R127	PQ4R10XJ102	1K	1
R128	ERDS1TJ470	47	1
R129	PQ4R10XJ473	47K	1
R130	PQ4R10XJ473	47K	1
R131	PQ4R10XJ103	10K	1
R132	Not Used		
R133	Not Used		
R134	Not Used		
R135	Not Used		
R136	Not Used		
R137	Not Used		
R138	Not Used		
R139	Not Used		
R140	Not Used		
R141	Not Used		
R142	Not Used		
R143	Not Used		
R144	Not Used		
R145	Not Used		
R146	Not Used		
R147	Not Used		
R148	Not Used		
R149	PQ4R10XJ223	22K	1
R150	PQ4R10XJ223	22K	1
R151	PQ4R10XJ104	100K	1
R152	Not Used		
R153	Not Used		
R154	PQ4R10XJ105	1M	1
R155	PQ4R10XJ224	220K	1
R156	PQ4R10XJ273	27K	1
R157	PQ4R10XJ393	33K	1
R158	PQ4R10XJ335	3.3M	1
R159	PQ4R10XJ104	100K	1
R160	PQ4R10XJ682	6.8K	1
R161	PQ4R10XJ474	470K	1
R162	PQ4R10XJ822	8.2K	1
R163	Not Used		
R164	PQ4R10XJ472	4.7K	1
R165	PQ4R10XJ474	470K	1
R166	PQ4R10XJ103	10K	1
R167	PQ4R10XJ393	33K	1
R168	PQ4R10XJ183	18K	1
R169	Not Used		
R170	Not Used		
R171	Not Used		
R172	ERDS1TJ470	47	1
R173	PQ4R10XJ102	1K	1
R174	PQ4R10XJ472	4.7K	1
R175	Not Used		
R176	PQ4R10XJ103	10K	1
R177	Not Used		

This replacement parts list is KX-T3281BX only.

Ref. No.	Part No.	Value	Pcs	Ref. No.	Part No.	Value	Pcs
R178	Not Used			R267	PQ4R18XJ471	470	1
R179	ERDS1TJ104	100K	1	R268	PQ4R18XJ471	470	1
R180	PQ4R10XJ103	10K	1	R269	PQ4R10XJ471	470	1
R181	PQ4R10XJ471	470	1	R270	PQ4R10XJ471	470	1
R182	Not Used			R271	PQ4R10XJ471	470	1
R183	Not Used			R272	PQ4R10XJ471	470	1
R184	PQ4R10XJ152	1.5K	1				
R185	PQ4R10XJ102	1K	1				
R186	PQ4R10XJ682	6.8K	1				
R187	PQ4R10XJ474	470K	1				
R188	PQ4R10XJ472	4.7K	1				
R189	PQ4R10XJ394	390K	1				
R190	PQ4R10XJ102	1K	1				
R191	PQ4R10XJ152	1.5K	1				
R192	PQ4R10XJ102	1K	1				
R193	PQ4R10XJ185	1.8M	1	C1	ECQE2E224JZ	0.22	1
R194	PQ4R10XJ101	100	1	C2	ECQE2E224JZ	0.22	1
R195	PQ4R10XJ472	4.7K	1	C3	ECQE2105KF	1	1
R196	PQ4R10XJ102	1K	1	C4	ECEA1HKS100	10	1
R197	PQ4R10XJ181	180	1	C5	ECEA1HKS22	0.22	1
R198	PQ4R10XJ185	1.8M	1	C6	ECQG1H682JZ	0.0068	1
R199	PQ4R10XJ102	1K	1	C7	ECKD2H681KB	680P	1
R200	PQ4R10XJ104	100K	1	C8	ECKD2H681KB	680P	1
R201	Not Used			C9	ECKT2H152KB	0.0015	1
R202	PQ4R10XJ334	330K	1	C10	ECKT2H152KB	0.0015	1
R203	PQ4R10XJ152	1.5K	1	C11	ECKT2H152KB	0.0015	1
R204	PQ4R10XJ000	0	1	C12	ECKT2H152KB	0.0015	1
R205	PQ4R10XJ472	4.7K	1	C13	PQCUV1E104MD	0.1	1
R206	PQ4R10XJ104	100K	1	C14	PQCUV1E104MD	0.1	1
R207	PQ4R10XJ152	1.5K	1	C15	PQCUV1E104MD	0.1	1
R208	PQ4R10XJ152	1.5K	1	C16	PQCUV1E104MD	0.1	1
R209	PQ4R10XJ103	10K	1	C17	ECEA1CKS100	10	1
R210	PQ4R10XJ473	47K	1	C18	ECEA1CK101	100	1
R211	PQ4R10XJ103	10K	1	C19	ECEA1HKS010	1	1
R212	PQ4R10XJ103	10K	1	C20	ECEA1CKS100	10	1
R213	PQ4R10XJ105	1M	1	C21	ECEA1CK101	100	1
R214	PQ4R18XJ473	47K	1	C22	ECEA1HKS010	1	1
R215	PQ4R10XJ334	330K	1	C23	PQCUV1E104MD	0.1	1
R216	PQ4R10XJ473	47K	1	C24	PQCUV1H103KB	0.01	1
R217	PQ4R10XJ104	100K	1	C25	ECEA1CKS100	10	1
R218	PQ4R10XJ123	12K	1	C26	ECEA1CKS100	10	1
R219	PQ4R18XJ123	12K	1	C27	ECEA0JKS101	100	1
R220	PQ4R10XJ824	820K	1	C28	PQCUV1E104MD	0.1	1
R221	PQ4R10XJ273	27K	1	C29	PQCUV1H581JC	560P	1
R222	PQ4R10XJ152	1.5K	1	C30	PQCUV1H103KB	0.01	1
R223	PQ4R10XJ472	4.7K	1	C31	PQCUV1H822MD	0.0082	1
R224	PQ4R10XJ102	1K	1	C32	PQCUV1H682KB	0.0068	1
R225	ERDS1TJ822	8.2K	1	C33	PQCUV1H223KB	0.022	1
R226	PQ4R10XJ223	22K	1	C34	ECEA0JKS470	47	1
R227	PQ4R10XJ000	0	1	C35	ECEA0JU102	1000	1
R228	PQ4R10XJ152	1.5K	1	C36	ECEA1HKS010	1	1
R229	Not Used			C37	PQCUV1H821JC	620P	1
R230	PQ4R10XJ272	2.7K	1	C38	ECEA0JK221	220	1
R231	PQ4R10XJ272	2.7K	1	C39	PQCUV1E104MD	0.1	1
R232	PQ4R10XJ334	330K	1	C40	ECEA1HKS010	1	1
R233	PQ4R10XJ102	1K	1	C41	ECEA1HKS010	1	1
R234	PQ4R10XJ103	10K	1	C42	PQCUV1C224ZF	0.22	1
R235	Not Used			C43	Not Used		
R236	PQ4R10XJ104	100K	1	C44	ECEA1CKS100	10	1
R237	PQ4R10XJ103	10K	1	C45	ECEA0JKS101	100	1
R238	Not Used			C46	PQCUV1H223KB	0.022	1
R258	PQ4R10XJ121	120	1	C47	PQCUV1C693MD	0.068	1
R259	PQ4R10XJ121	120	1	C48	PQCUV1H223KB	0.022	1
R260	PQ4R10XJ121	120	1	C49	PQCUV1H392KB	0.0039	1
R261	PQ4R10XJ121	120	1	C50	PQCUV1E104MD	0.1	1
R262	PQ4R10XJ121	120	1	C51	Not Used		
R263	PQ4R10XJ121	120	1	C52	PQCUV1H223KB	0.022	1
R264	PQ4R10XJ121	120	1	C53	PQCUV1H102J	0.001	1
R265	PQ4R18XJ471	470	1	C54	ECEA1CKS100	10	1
R266	PQ4R18XJ471	470	1	C55	Not Used		
				C56	PQCUV1H103KB	0.01	1

This replacement parts list is KX-T3281BX only.

Ref. No.	Part No.	Value	Pcs
C57	Not Used		
C58	Not Used		
C59	ECSV1H104MD	0.1	1
C60	PQCUV1H562KB	0.0056	1
C61	PQCUV1H272KB	0.0027	1
C62	ECEA1HKS010	1	1
C63	ECEA1HKS010	1	1
C64	PQCUV1H473MD	0.047	1
C65	Not Used		
C66	ECEA0JKS101	100	1
C67	PQCUV1H473MD	0.047	1
C68	PQCUV1H222KB	0.0022	1
C69	PQCUV1H473MD	0.047	1
C70	PQCUV1C224ZF	0.22	1
C71	Not Used		
C72	Not Used		
C73	Not Used		
C74	Not Used		
C75	Not Used		
C76	PQCUV1E104MD	0.1	1
C77	PQCUV1E104MD	0.1	1
C78	PQCUV1E104MD	0.1	1
C79	PQCUV1H102J	0.001	1
C80	PQCUV1H681JC	680P	1
C81	PQCUV1H473MD	0.047	1
C82	PQCUV1E104MD	0.1	1
C83	PQCUV1H180JC	18P	1
C84	PQCUV1H180JC	18P	1
C85	Not Used		
C86	ECEA1CK101	100	1
C87	PQCUV1H473MD	0.047	1
C88	Not Used		
C89	Not Used		
C90	PQCUV1H222KB	0.0022	1
C91	PQCUV1E104MD	0.1	1
C92	ECEA1HKS010	1	1
C93	ECEA1HKS2R2	2.2	1
C94	PQCUV1H473MD	0.047	1
C95	ECEA1CKS100	10	1
C96	ECEA1HKS010	1	1
C97	ECEA1HKS2R2	2.2	1
C98	ECEA0JKA331	390	1
C99	ECEA1HKS010	1	1
C100	Not Used		
C101	ECEA1VKS4R7	4.7	5
C102	PQCUV1H473MD	0.047	1
C103	PQCUV1H103KB	0.01	1
C104	PQCUV1H103KB	0.01	1
C105	ECQS2B101FZ	100P	1
C106	PQCUV1H472KB	0.0047	1
C107	PQCUV1H473MD	0.047	1
C108	EECW5R5D473	0.047	1
C109	Not Used		
C110	ECEA1CKS470	47	1
C111	ECUV1H473MD	0.047	1
C112	ECEA1CKS470	47	5
C113	Not Used		
C114	PQCUV1H473MD	0.047	1
C115	ECEA1CK101	100	5
C116	ECEA1CKS470	47	1
C117	ECUV1H473MD	0.047	1
C118	ECEA1CKS100	10	1
C119	Not Used		
C120	ECQS2B101FZ	100P	1
C121	Not Used		
C122	ECEA1CK101	100	5
C123	PQCUV1H102J	0.001	1
C124	PQCUV1H102J	0.001	1
C125	PQCUV1H103KB	0.01	1
C126	PQCUV1H103KB	0.01	1
C127	PQCUV1H103KB	0.01	1

Ref. No.	Part No.	Value	Pcs
C128	PQCUV1H103KB	0.01	1
C129	PQCUV1H102J	0.001	1
C130	PQCUV1H103KB	0.01	1
C131	PQCUV1H472KB	0.0047	1
C132	PQCUV1H102J	0.001	1
C133	ECKD2H103KB	0.01	1
C134	PQCUV1H472KB	0.0047	1
C135	Not Used		
C136	Not Used		
C137	PQCUV1E104MD	0.1	1
C138	PQCUV1H102J	0.001	1
C139	Not Used		
C140	PQCUV1H102J	0.001	1
C141	PQCUV1H101JC	100P	1
C142	PQCUV1H101JC	100P	1
C143	PQCUV1H103KB	0.01	1
C144	PQCUV1E104MD	0.1	1
C145	PQCUV1E104MD	0.1	1
C146	PQCUV1E104MD	0.1	1
C147	ECEA0JK221	220	1
C148	Not Used		
C149	PQCUV1H103KB	0.01	1
C150	ECEA1VKS4R7	4.7	S 1
C151	Not Used		
C152	PQCUV1E104MD	0.1	1
C153	ECEA0JKS470	47	1
C154	ECEA1VKS4R7	4.7	S 1
C155	ECEA1VKS4R7	4.7	S 1
C156	ECUV1H332KB	0.0033	1
C157	POCBC1H103MY	0.01	1

SUB P. C. BOARD PARTS

PCB2	POWP2T3281BX	SUB P. C. BOARD ASSEMBLY (RTL)	1
ICA	PQVITC4S30F	IC	1
QB	UN5213	TRANSISTOR (SI)	S 1
RC	PO4R10XJ823	82K	1